UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/582,956	12/26/2006	Eric Vandevyver	292390US0PCT	1517

22850 7590 08/04/2009

OBLON, SPIVAK, MCCLELLAND MAIER & NEUSTADT, P.C.
1940 DUKE STREET
ALEXANDRIA, VA 22314

EXAMINER	
CHIN, HUI H	

ART UNIT	PAPER NUMBER
1796	

NOTIFICATION DATE	DELIVERY MODE
08/04/2009	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

patentdocket@oblon.com
oblonpat@oblon.com
jgardner@oblon.com

Office Action Summary	Application No.	Applicant(s)	
	10/582,956	VANDEVYVER ET AL.	
	Examiner	Art Unit	
	HUI CHIN	1796	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *27 May 2009*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-8 and 15-26* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-8 and 15-26* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1. This Office Action is in response to the Response filed 5/27/2009. Claims 1 and 3-8 have been amended and claims 9-14 have been cancelled. Claims 15-26 have been added. Claims 1-8 and 15-26 are now pending.

In view of the Response, the rejections of claims 1-8 under 35 U.S.C. 103(a) are maintained.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. Claims 1-6, 8, 15-17, 19, 21, and 23-26 are rejected under 35 U.S.C. 103(a) as obvious over Elspass et al. (US Patent 5,883,173) in view of Meschke et al. (US Patent 4,638,029).

Elspass et al. disclose a nanocomposite material made from latex comprising a liquid, from 0.1 wt. % to about 70 wt. % of a surfactant, from about 0.2 wt. % to about 4 wt. % of a layered material, and from about 0.1 wt. % to about 63 wt. % of a polymer (abstract, claim 1).

However, Elspass et al. are silent on the drying by atomization.

Meschke et al. disclose a ceramic composition comprising a ceramic material, clay, a dispersant and a polymer binder (claim 1). Meschke et al. further disclose the slurry can be dried by atomization with a two-fluid nozzle at an atomizing pressure of 40 psig. and with inlet temperature of 280°C and outlet temperature of 130°C to improve the drying process (col. 26 lines 7-19). It is obvious to adjust the inlet and outlet temperatures according to the materials in the composition in order to obtain the optimum condition during the processing. In light of such benefit, it would have been obvious to one of ordinary skill in the art at the time the invention was made to make the nanocomposite with an atomization drying process with the expected success.

The limitations of claims 2, 17, and 19 can be found in Elspass et al. at col. 8, line 58, where it discloses the vinyl chloride.

The limitations of claim 3 can be found in Elspass et al. at col. 3, line 24, where it discloses the emulsion polymerization.

The limitations of claim 4 can be found in Elspass et al. at claim 1, where it discloses the smectite clay.

The limitations of claim 5 can be found in Elspass et al. at claim 1, where it discloses the surfactant.

The limitations of claim 6 can be found in Elspass et al. at Example 2, where it discloses the process.

The limitations of claim 8 can be found in Elspass et al. at col. 5, lines 26-28, where it discloses the milling.

The limitations of claims 23-24 can be found in Elspass et al. at claim 1, where it discloses the composition.

The limitations of claim 25 can be found in Elspass et al. at Example 5, where it discloses the suspension.

The limitations of claim 26 can be found in Elspass et al. at Example 6, where it discloses the material is brought to 200°C.

4. Claim 7 is rejected under 35 U.S.C. 103(a) as obvious over Elspass et al. (US Patent 5,883,173) in view of Meschke et al. (US Patent 4,638,029), as applied to claims 1-6, 8, 15-17, 19, 21, and 23-26, and further in view of Parker et al. (US 20040054059).

The disclosure of Elspass et al. in view of Meschke et al. is adequately set forth in paragraph 4 and is incorporated herein by reference.

However, Elspass et al. in view of Meschke et al. is silent on the use of the peptizing agent.

Parker et al. disclose a nanocomposite comprising an elastomer and clay (claim 1). Parker et al. further disclose the use of the peptizing agent ([0143]) to improve on dispersion. In light of such benefit, it would have been obvious to one of ordinary skill in the art at the time the invention was made to make the nanocomposite with a peptizing agent with the expected success.

5. Claim 18 is rejected under 35 U.S.C. 103(a) as obvious over Elspass et al. (US Patent 5,883,173) in view of Meschke et al. (US Patent 4,638,029), as applied to claims

1-6, 8, 15-17, 19, 21, and 23-26, and further in view of Matsumura et al. (US Patent 7,485,401).

The disclosure of Elspass et al. in view of Meschke et al. is adequately set forth in paragraph 4 and is incorporated herein by reference.

However, Elspass et al. in view of Meschke et al. is silent on the specific fluoropolymer.

Matsumura et al. disclose a resin composition containing polymer such as poly(vinylidene fluoride) with clay in a dispersion to improve the friction resistance (col. 13, line 38, col. 15, lines 20, 25). In light of such benefit, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use the specific fluoropolymer with the expected success.

6. Claim 20 is rejected under 35 U.S.C. 103(a) as obvious over Elspass et al. (US Patent 5,883,173) in view of Meschke et al. (US Patent 4,638,029), as applied to claims 1-6, 8, 15-17, 19, 21, and 23-26, and further in view of Kieffer (US Patent 5,702,131).

The disclosure of Elspass et al. in view of Meschke et al. is adequately set forth in paragraph 4 and is incorporated herein by reference.

However, Elspass et al. in view of Meschke et al. is silent on the turbine atomization.

Kieffer discloses an outlet fitting combination with a portable turbine to provide atomization air for spray painting to reduce the processing cost (claim 1, col. 1, lines 15-17). In light of such benefit, it would have been obvious to one of ordinary skill in the art

at the time the invention was made to use the turbine atomization with the expected success.

7. Claim 22 is rejected under 35 U.S.C. 103(a) as obvious over Elspass et al. (US Patent 5,883,173) in view of Meschke et al. (US Patent 4,638,029), as applied to claims 1-6, 8, 15-17, 19, 21, and 23-26, and further in view of Cohen et al. (US Patent 7,014,068).

The disclosure of Elspass et al. in view of Meschke et al. is adequately set forth in paragraph 4 and is incorporated herein by reference.

However, Elspass et al. in view of Meschke et al. is silent on the specific atomization.

Cohen et al. disclose a pre-compression pump which can minimize the pulsing effect caused by pressure fluctuation, can enlarge the pump cylinder and nozzle so to reduce the restriction to flow, and can reduce the throttling and the damping in order to more efficiently dispense microdoses of fluid (abstract, col. 2, lines 13-44). In light of such benefit, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use the specific atomization process with the expected success.

Response to Arguments

8. Applicant's arguments filed 5/27/2009 have been fully considered and are not persuasive.

Elspass et al. disclose a nanocomposite material made from latex comprising a liquid, a surfactant, a layered material, and a polymer, wherein the latex is coagulated then dried. The instant invention claims a dispersion comprising a polymer, a lamellar compound, and a dispersing liquid. This dispersion has to be formed from an aggregation of the components such as polymer, lamellar compound, and dispersing liquid. Thus, the disclosure of Elspass et al. met the requirements of the instantly claimed invention.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to HUI CHIN whose telephone number is (571)270-7350. The examiner can normally be reached on Monday to Friday; 8:00am - 5:00pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Wu can be reached on 571-272-1114. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Ling-Siu Choi/
Primary Examiner, Art Unit 1796

/HC/